

TO BEND OR NOT TO BEND – THOUGHTS ON SPINAL MOVEMENT

1. **A LANDMARK RETROSPECTIVE STUDY (SINAKI-MIKKELSEN 1984)** shows that significantly **more** spinal fractures occurred in people, diagnosed with osteoporosis, who were instructed in either spinal flexion or a combination of spinal flexion and extension exercises than those who were instructed in extension only.
2. **SUBSEQUENT RESEARCH** also indicates that strengthening of the back extensors **significantly reduces risk of compression fractures** in people with osteoporosis (Sinaki-Itoi 2002; Huntoon-Schmidt-Sinaki 2008).
3. **PEOPLE TEND TO MOVE IN AREAS OF GREATER FLEXIBILITY.** My translation of this is that people tend to move the easy segment first; we develop habitual movement patterns and this would include movements in the spine. And so, we typically tend to twist and bend in the same segments over and over and can develop repetitive use injuries such as disc problems, facet joint syndromes, as well as compression fractures if we have low bone mass (or even with normal bone). Learning to move with a more elongated spine may help protect people from injury no matter which direction they are moving.
4. **MOST COMPRESSION FRACTURES ARE SILENT.** The literature and statistics continue to state that **up to 70-80% of compression fractures are silent and/or accompanied by such minute symptoms that a person wouldn't suspect that a fracture had occurred.** These fractures tend to accumulate and then, one day a person stands up out of bed and sustains the **vertebral fracture cascade** where several fractures occur all at once, a person loses inches of body height and, as I have observed, that person becomes a "shadow" of their former self,
5. **ALTHOUGH HAVING OSTEOPOROSIS PUTS A PERSON AT GREATER RISK OF FRACTURE,** worldwide statistics show greater incidence of fragility fractures occur in people with normal bone and osteopenia. There are, of course, more people with normal bone and osteopenia than with osteoporosis. Nevertheless, why should people with "better bone" sustain fragility fractures? I believe this may be related to poor bone quality (which cannot be measured non-invasively).
6. **ABDOMINAL CRUNCHES** have been shown to be the LEAST effective exercises for core strength (Richardson et al, 1990) (so, I think, why would I waste my time doing them when there are better and safer ab strengthening exercises to do),
7. **EXERCISES THAT "FEEL GOOD" ARE USUALLY HABITUAL MOVEMENT PATTERNS** that people are used to doing, not therapeutic and can actually cause injury.
8. **AS THE "EXPERTS" IN MOVEMENT THERAPY,** physical therapists need to be cognizant of the anatomy, kinesiology and biomechanics of movement and lead people into safer movement for better function. Movement should also be based on the patient's clinical condition, not solely on the specific diagnosis of osteoporosis or osteopenia.

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